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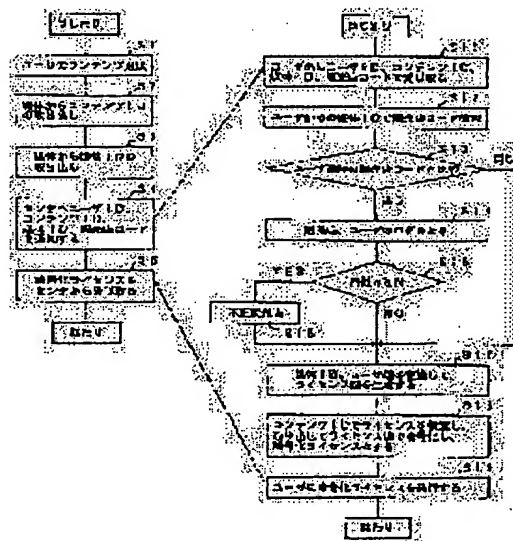
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(54) METHOD AND SYSTEM FOR SALES MANAGEMENT OF SOFTWARE

(57)Abstract:

PURPOSE: To prevent the profit of software sales from being distributed to a sales shop, where storage media are not actually sold, in the sales form of softwares for separately selling the storage medium stored in the state of protecting the software and licence for canceling the protecting state of the software in that storage medium.

CONSTITUTION: The relation of correspondence between the recording medium and the sales shop to supply the recording medium is recorded and when a user reports information for specifying the purchased recording medium and information for specifying the sales shop as the destination of purchase to a center, the relation of correspondence between the recording medium and the sales shop specified by the reported information is compared with the recorded relation of correspondence between the recording medium and the sales shop. When the respective corresponding relations are unequal, the compared result is recorded.



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CLAIMS

[Claim]

[Claim 1] The dealer to which the storage stored where software is protected was supplied from the center sells this storage to an user. It is the software sales management technique in the center in the selling system which sells the license for a center canceling the protection state of the software in this storage when there is a demand from an user to a center. When the correspondence relation with the dealer which supplies a record medium and this record medium is recorded and the information which pinpoints the dealer which is the information and supply place which specify the purchased record medium is reported to a center by the user The software sales management technique of recording the result of the comparison when the correspondence relation of the record medium and dealer which carried out [above-mentioned] the record with the correspondence relation of the record medium and dealer which are pinpointed for the reported information is compared and each above-mentioned correspondence relation is not in agreement.

[Claim 2] The software sales management technique of judging whether it being the true dealer where the reported dealer sold this storage further in the software sales management technique of claim 1 publication based on the record of a comparison result.

[Claim 3] The software sales management technique of judging whether it being the true dealer where the dealer reported based on the recording rate of this comparison result sold this record medium in the software sales method of claim 2 publication.

[Claim 4] The software sales management technique judge that is not the true dealer where the reported dealer sold this record medium in the software sales method of claim 3 publication when the recording rate of this comparison result reaches the number of times of predetermined.

[Claim 5] The software sales management technique that encipher a license using the information which specifies the claim 1 or the storage reported by the user, and a center provides an user with 4 either of the enciphered license in the software sales management technique of a publication.

[Claim 6] The software sales management technique which generates a key from the information which specifies the information and user who specify the storage reported by the user in the software sales management technique of claim 5 publication, and enciphered the *** license for keys.

[Claim 7] The dealer to which the storage stored where software is protected was supplied from the center sells this storage to an user. It is a software sales management system in the center in the selling system which sells the license for a center canceling the protection state of the software in this storage when there is a demand from an user to a center. When the information which pinpoints the dealer which are a correspondence record means to record the correspondence relation with the dealer which supplies a record medium and this record medium, the information which specifies the purchased record medium from an user, and a purchase place is reported to a center A comparison means to compare the correspondence relation of the record medium and dealer which carried out [above-mentioned] the record with the correspondence relation of the record medium and dealer which are pinpointed for the reported information, and the software sales management system which has a record means as a result of recording the result of the comparison, when each above-mentioned correspondence relation is not in agreement.

[Claim 8] The software sales management system which has an unjust judging means to judge whether it is the true dealer where the reported dealer sold this storage further in the software sales management system of claim 7 publication based on the record of the comparison result in a comparison means.

[Claim 9] It is the software sales management system which has a means to judge whether it is the true dealer where the dealer where the unjust judging means was reported in the software selling system of claim 8 publication based on the recording rate of this comparison result in a result record means sold this record medium.

[Claim 10] An unjust judging means is a software sales management system which has a means to judge with it not being the true dealer where the reported dealer sold this record medium when the recording rate of this comparison result reaches the number of times of predetermined in the software selling system of claim 9 publication.

[Claim 11] The software sales management system by which it has a license encryption means to encipher a license using the information which specifies the claim 7 or the storage reported by the user, and the center provided the user with 10 either of the enciphered license further in the software sales management system of a publication.

[Claim 12] It is the software sales management system which has a key generation means to generate a key, from the information which specifies the information and user who specify the storage with which the encryption means was reported by the user in the software sales management system of claim 11 publication, and enciphered the generated **** license for keys.

[Claim 13] The sales management technique of software using the private key which defines beforehand and is shared between a center and an user in the software sales management technique of claim 6 publication as an information which specifies an user.

[Claim 14] The sales management system of the software used as the private key which defines beforehand the information which specifies an user and is sharing it between a center and an user in the software sales management system of claim 12 publication.

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DETAILED DESCRIPTION

[Detailed description]

[0001]

[Field of the Invention] this invention relates to the software sales management technique and a system, and relates to the software sales method and system which are applied to the system which sells separately the storages stored in detail where software is protected, such as CD-ROM and a magneto-optic disk (MO), and the license for canceling the protection state of the software in the storage.

[0002]

[Prior art] The selling gestalt of the software which sells separately the storages stored where software is protected in recent years, such as CD-ROM and a magneto-optic disk, and the license for canceling the protection state of the software in the storage is proposed. A center supplies to a dealer the storage specifically stored in the protection state which cannot carry out direct use of the software, and a dealer sells to an user the storage which received supply from the center. Moreover, a center sells to this user the license (key) for canceling the protection state of this software to a demand of the user et al. who wishes use of software. And the user who purchased the storage and the license reads the software in a storage using the license (key), and uses the software in an user's system.

[0003] In the selling gestalt of such software, a distribution of the profits obtained from the center by license sale to the dealer is performed. For this reason, in the center, when there is a demand of license purchase from an user, it is necessary to check from which dealer the storage has been purchased.

[0004] Conventionally, a center sticks a label on a storage, and in case a dealer sells this storage to an user, it has entered the dealer code (beforehand set in the center) which pinpoints the dealer in the label. And when an user purchases a license, a telephone, facsimile (FAX), etc. notify the dealer code as which the label was filled in to a center. A center distributes the profits obtained by sale of this license to the dealer pinpointed in dealer code notified by the user.

[0005]

[Object of the Invention] However, even if it notifies the dealer code of dealers other than the dealer where the user actually purchased the storage to a center in the management method of sale for which it depended on the notice from the above users, in the center, it is undetectable. Therefore, if the dealer code of the dealer which actually purchased the storage, and a different dealer is unjustly notified to a center from an user, the profits of license sale will not be distributed to the dealer which should originally be distributed, but the profits will be distributed to other inaccurate dealers.

[0006] Then, the purpose of this invention is offering the software sales management technique and the system which can inhibit an user notifying unjustly the dealer code of dealers other than the dealer which actually purchased the storage in the selling gestalt of the software which sells separately the storage stored where software is protected, and the license for canceling the protection state of the software in the storage.

[0007]

[Object of the Invention] In order to solve the above-mentioned technical problem, invention so that it may be indicated by claims 1 and 7 The dealer to which the storage stored where software is protected was supplied from the center sells this storage to an user. It is the software sales management technique and the system in the center in the selling system which sells the license for a center canceling the protection state of the software in this storage when there is a demand from an user to a center. When the correspondence relation with the dealer which supplies a record medium and this record medium is recorded and the information which pinpoints the dealer which is the information and purchase place which specify the purchased record medium is reported to a center by the user When the correspondence relation of the record medium and dealer which carried out [above-mentioned] the record with the correspondence relation of the record medium and dealer which are pinpointed for the reported information was compared and each above-mentioned correspondence relation was not in agreement, the result of the comparison was recorded.

[0008] Furthermore, it judged whether it was the true dealer where the dealer further reported in the above-mentioned software sales management technique and the system from the viewpoint that it can judge whether the unjust report was made from the user, based on the record of a comparison result so that it might be indicated by claims 2 and 8 sold this storage.

[0009] Moreover, in the software sales management technique and the system which were indicated by the above-mentioned claims 2 and 8, it judged whether it was the true dealer where the dealer reported based on the recording rate of this comparison result from the viewpoint of preventing an unjust judgment being

performed based on a report of the dealer which was mistaken from the user so that it might be indicated by claims 3 and 9 sold this record medium.

[0010] Moreover, in the software sales management technique and the system which were indicated by the above-mentioned claims 3 and 9, when the recording rate of this comparison result reached the number of times of predetermined from the viewpoint that it can judge easily so that it may be indicated by claims 4 and 10, it was made to judge with not being the true dealer where the reported dealer sold this record medium.

[0011] moreover, each above-mentioned software sales method and system **** — from the viewpoint of inhibiting reporting unjustly the information as which an user specifies a storage, a license is enciphered using the information which specifies the storage reported by the user, and the center provided the user with the enciphered license so that it might be indicated by claims 5 and 11

[0012] Moreover, in the software sales management technique and a system the above-mentioned claim 5 and given in 11, from the viewpoint of generating the enciphered license peculiar to an user, a key is generated from the information which specifies the information and user who specify the storage reported by the user, and the **** license for keys was enciphered so that it might be indicated by claims 6 and 12.

[0013] Furthermore, concretely, the information which specifies the above-mentioned user was used as the private key which defines beforehand and is shared between a center and an user so that it might be indicated by claims 13 and 14.

[0014]

[Operation] By the software sales-management technique and the system concerning this invention indicated by claims 1 and 7, when supplying a storage to a dealer, the correspondence relation of the storage and dealer is recorded, and when the information which specifies the storage purchased from the user, and the information which pinpoints the dealer are reported, this correspondence relation by which the record was carried out [above-mentioned] with the correspondence relation of the record medium and the dealer which were this reported is compared. And when those correspondence relations are not in agreement, the comparison result is recorded. This record result shows whether report up and the dealer where an user is different from practice is.

[0015] In the software sales management technique and the system concerning this invention indicated by claims 2 and 8, it judges whether it is the true dealer where the reported dealer actually sold this storage based on this comparison result. Based on this judgment result, it turns out whether to be the no by which the unjust report was made from the user.

[0016] Furthermore, an user is provided with the license enciphered using the information which specifies the storage reported by the user in the software sales management technique and the system concerning this invention indicated by the claim 5 and 11 publications (sale). If an user replaces with unjustly the information which specifies a storage and reports it by this, the protection state of the software in a storage cannot be canceled, but this user becomes unable to use the software for which it wishes.

[0017]

[Example] Hereafter, the example of this invention is explained based on a drawing. First, the selling gestalt of the software in this example is explained with reference to drawing 1 . In drawing 1 , a center 100 enciphers 1 or two or more contents (software) with a predetermined key, and stores in a storage (for example, MO:magneto-optic disk) the contents which would be in the protection state by the encryption. And the storage (MO) is supplied to a dealer 200 from a center 100 (**). A dealer 200 sells to an user 300 the storage (MO) which received supply from the center 100 (**). At this time, the price of a record medium (MO) is paid from an user 300 to a dealer 200. The price of this record medium (MO) is a small amount from the price of the license generally mentioned later. An user 300 notifies the payment condition of the price of the user ID which specifies an user 300 with contents ID which shows the contents of hope, medium ID, a dealer code, and a license etc. to a center 100 (**). In addition, about medium ID and a dealer code, it mentions later. A center 100 will publish the license for canceling the protection state of the contents which he wishes in a storage (MO) to an user 300, if the user who demands a license by user ID judges with it being a regular user (**). In the system of oneself, the user 300 who received the license cancels the protection state of the contents (software) of hope using a license, and uses the contents.

[0018] As shown in drawing 2 , it is constituted, and it feels shy and the system (center system) of the above-mentioned center 100 and an user's 300 system (user system) are. In addition, in drawing 2 , reference numbers 100 and 300 are given to each system of the center 100 and the user 300 as well as this center and an user, respectively.

[0019] The user system 300 is connected to the center system 100 through a public line. The center system 100 has the license issue section 101, the dealer Management Department 102, the dealer code Management Department 103, the medium ID Management Department 104, the inaccurate log file 105, the user key file 106, the license file 107, and the accounting section 108. The dealer code Management Department 103 manages the dealer code showing each dealer generalized in the concerned center. The medium ID Management Department 104 manages the medium number (medium ID) which specifies each storage (MO) shipped from the concerned center. Moreover, the medium ID Management Department 104 also performs processing for setting medium ID as each storage (MO) shipped. Processing set as the storage (MO) of this medium ID may be performed electronically and magnetically, and the bar code or the medium number itself showing medium ID may be printed on a label etc. moreover, storage (— as long as there is an identifiable information on every MO), you may use it The dealer Management Department 102 has the file which shows the correspondence

relation with the storage (MO) shipped to a dealer and there, and manages which storage was shipped to which dealer based on this file. Moreover, the dealer Management Department 102 inspects whether this relation notified from the correspondence relation and the user system 300 of the dealer (dealer code) and storage (medium ID) which are recorded by this file is in agreement.

[0020] The license issue section 101 publishes the license (key) enciphered using medium ID and user ID according to the demand from the user system 300 to the user system 300. When the relation of the dealer and storage which were notified from the user system 300 differs from what was beforehand recorded by the file, the dealer (dealer code) and its number of times (number of times of inaccurate) are recorded by the inaccurate log file 105. That is, when the correspondence relation of the dealer (dealer code) and storage (medium ID) in the above-mentioned dealer Management Department 102 which were reported from the user system 300 as a result of the check is not in agreement with the correspondence relation recorded by the file, the increment of the number-of-times data of inaccurate of the reported dealer in the inaccurate log file 105 is carried out only for +1. The user key file 106 saves the user key beforehand defined as a private key between the user ID and the user who were notified from the user system 300, and the center. The license information set to each contents (software) of every is stored in the license file 107. The accounting section 108 performs accounting based on the payment condition of the price of the license notified from the user system 300.

[0021] The user system 300 has the license demand section 301, the license file 302, the user key register 303, and the use control section 304. The license demand section 301 will transmit a license demand of each contents to the center system 100 with user ID, contents ID corresponding to the software name, medium ID, and a dealer code, if the input user ID stored in the name of the software for which the user inputted from input units, such as a keyboard, wishes, the dealer code which shows the dealer which purchased this storage (MO), medium ID read from the storage (MO), and the user key register 303 is received. Moreover, the license demand section 301 receives the enciphered license to each contents published from the center system 100, and stores the enciphered license in the license file 302. The use control section 304 decrypts the enciphered license which is saved by the license file 302 using the user key and medium ID which were stored in the user key register 303, and reproduces the original license. And the protection state of the contents (software) in a storage (MO) is canceled using this reproduced license, and use of this contents is attained by the user system 300.

[0022] In the user system 300 mentioned above, an user may do the direct input of the medium ID printed on the label stuck on the storage (MO) from input units, such as a keyboard. Moreover, user ID may be used instead of an user key, and the key of a decryption may be generated.

[0023] Next, flowing of processing is explained according to the path of circulation of a storage (MO). First, in the center, without overlapping to the registered dealer, a dealer code is assigned and the assigned dealer code is managed at the dealer code Management Department 103 of the center system 100. Medium ID is assigned to a new storage (MO), without overlapping already registered medium ID, and the medium ID is managed at the medium ID Management Department 104. Moreover, this medium ID (medium number) is written in a storage (MO). And the label for entering a dealer code in the case of a storage (MO) is stuck.

[0024] If a dealer 200 arrives the storage (MO) from a center, the dealer code which pinpoints this dealer 200 will be entered in a label. And this storage (MO) is sold to an user. Purchase of the storage (MO) with which the software for which an user wishes from a dealer 200 was stored performs processing in the user system 300 and the center system 100 according to the procedure shown in drawing 3.

[0025] In drawing 3, if the name of the software (contents) for which an user wishes is inputted from an input unit (S1), contents ID which corresponds from a storage (MO) will be read (S2). And medium ID is read from a storage (MO) (S3). Furthermore, an user's input of the dealer code as which the label of user ID and this storage (MO) was filled in notifies user ID, contents ID, medium ID, and a dealer code from the user system 300 to the center system 100 (S4). At this time, a demand of a license is made from the user system 300 to the center system 100.

[0026] If this license demand (user ID, contents ID, medium ID, and a dealer code are included) is received from the user system 300 (S11), the license issue section 101 will be started. And the dealer Management Department 102 searches the dealer code corresponding to medium ID notified from the user system 300 out of a file (S12), and it is judged whether the dealer code notified from the searched dealer code and the user system 300 is in agreement (S13). If the dealer code searched based on medium ID it was notified that was the dealer code notified by the user is in agreement, the license issue section 101 will read an user key from an user key file by medium ID and user ID which were notified from the user system 300, and will create a license key (S17). And a license is searched on the basis of contents ID notified from the user system 300, and the license corresponding to the user's contents of choice is enciphered using a license key (S18). This encryption license is transmitted to the user system 300 from the license issue section 101 (S19). (issue)

[0027] If it judges with the dealer code actually notified from the dealer code which the dealer Management Department 102 in a center 100 searched from the file on the other hand based on medium ID notified from the user system 300, and the user system 300 not being in agreement (S13), the dealer code which had the notice in the inaccurate log file 105 from the user system 300, and its number-of-times n will be written in. And when it is judged whether the number-of-times n reached predetermined number-of-times N (S15) and it has reached, the dealer pinpointed in the dealer code is recorded as an inaccurate dealer (S16).

[0028] If an encryption license is published by the user system 300 from a center 100 as mentioned above, in the user system 300, the license demand section 301 stores this encryption license in the license file 302 (S5).

Then, in the user system 300, processing is performed according to the procedure of drawing 4.

[0029] In drawing 4, the contents which the user stored in the storage (MO) wishes is started (S21), and medium ID is further read from a storage (MO) (S22). An user's input of user ID sets a corresponding user key to the user key register 303 (S23). And a license key is generated based on these mediums ID and an user key (S24), and the encryption license saved by the license file 302 is decrypted using this license key (S25). And the decrypted license is notified to the use control section 304 (S206). If a license is notified, the use control section 304 will cancel the protection state of the contents started using the license, and will perform processing according to the contents (use).

[0030] An unjust report of the following users can be considered in the selling gestalt of the software which was mentioned above.

1) the report 2 of medium ID different from actual medium ID — in the different report above-mentioned example [that both report 3 above-mentioned medium ID of the dealer code different from a purchasing / the medium /—actually dealer and a dealer code are actual], since the license key is created from medium ID and the user key, if an user performs an unjust report of medium ID, the user itself becomes unable to use a contents Therefore, the case of the above 1 and 3 can be inhibited. Moreover, if an user reports a dealer code unjustly, since the record will be made by the inaccurate log file, in the case of the above 2, a center can detect the injustice.

[0031] Moreover, not intentionally but reporting a dealer code to a center accidentally may also have an user. Therefore, the number of times of an inaccurate log is taken, and the inaccurate dealer is judged when number-of-times n of the inaccurate log in a certain specific dealer reaches number-of-times N of predetermined. Thereby, a judgment of the mistaken inaccurate dealer is prevented.

[0032] In addition, although various kinds of informations (medium ID, user ID, dealer code, etc.) are transmitted to the center system 100 from the user system 300 and the encryption license is transmitted to the user system 300 from the center system 100, using a public line etc. at the above-mentioned example, you may be made to tell these informations by the telephone or facsimile (FAX) between an user and a center, without being limited to this. In this case, in the center, you may judge whether the correspondence relation of medium ID and the dealer code in which the official in charge was actually reported by the user based on the correspondence-related table of medium ID and the dealer code which were written to space is right.

[0033] In this example, although the magneto-optic disk was used as a storage, naturally it is also possible to use CD-ROM as this medium. In this case, the lot number of CD-ROM can also be used as a medium ID. Although the same medium ID will be given to two or more CD-ROMs (the same lot) when a lot number is used as a medium ID, it does not become a problem especially if there are not extremely many CD-ROMs in the same lot.

[0034] Moreover, although the technique of encryption is used as a safeguard of software, the arbitrary protection technique is possible. Furthermore, although the license is enciphered between a center and an user in this example using the user key beforehand defined as a private key, it is also possible to use the data which changed to remain as it is or it, and obtained user ID as a private key for encryption of a license.

[0035]

[Effect of the invention] The dealer to which the storage stored like according to this invention where software is protected was supplied from the center sells this storage to an user. above ***** — When there is a demand from an user to a center, even if an user reports a dealer etc. to a center unjustly in the selling gestalt which sells the license for a center canceling the protection state of the software in this storage, detecting it comes out. Therefore, such an action user's action can be inhibited and the profits of software sale come to be certainly distributed to a true dealer.

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TECHNICAL FIELD

[Field of the Invention] this invention relates to the software sales management technique and a system, and relates to the software sales method and system which are applied to the system which sells separately the storages stored in detail where software is protected, such as CD-ROM and a magneto-optic disk (MO), and the license for canceling the protection state of the software in the storage.

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PRIOR ART

[Prior art] The selling gestalt of the software which sells separately the storages stored where software is protected in recent years, such as CD-ROM and a magneto-optic disk, and the license for canceling the protection state of the software in the storage is proposed. A center supplies to a dealer the storage specifically stored in the protection state which cannot carry out direct use of the software, and a dealer sells to an user the storage which received supply from the center. Moreover, a center sells to this user the license (key) for canceling the protection state of this software to a demand of the user et al. who wishes use of software. And the user who purchased the storage and the license reads the software in a storage using the license (key), and uses the software in an user's system.

[0003] In the selling gestalt of such software, a distribution of the profits obtained from the center by license sale to the dealer is performed. For this reason, in the center, when there is a demand of license purchase from an user, it is necessary to check from which dealer the storage has been purchased.

[0004] Conventionally, a center sticks a label on a storage, and in case a dealer sells this storage to an user, it has entered the dealer code (beforehand set in the center) which pinpoints the dealer in the label. And when an user purchases a license, a telephone, facsimile (FAX), etc. notify the dealer code as which the label was filled in to a center. A center distributes the profits obtained by sale of this license to the dealer pinpointed in dealer code notified by the user.

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EFFECT OF THE INVENTION

[Effect of the invention] The dealer to which the storage stored like according to this invention where software is protected was supplied from the center sells this storage to an user. above ***** -- When there is a demand from an user to a center, even if an user reports a dealer etc. to a center unjustly in the selling gestalt which sells the license for a center canceling the protection state of the software in this storage, detecting it comes out. Therefore, such an action user's action can be inhibited and the profits of software sale come to be certainly distributed to a true dealer.

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TECHNICAL PROBLEM

[Object of the Invention] However, even if it notifies the dealer code of dealers other than the dealer where the user actually purchased the storage to a center in the management method of sale for which it depended on the notice from the above users, in the center, it is undetectable. Therefore, if the dealer code of the dealer which actually purchased the storage, and a different dealer is unjustly notified to a center from an user, the profits of license sale will not be distributed to the dealer which should originally be distributed, but the profits will be distributed to other inaccurate dealers.

[0006] Then, the purpose of this invention is offering the software sales management technique and the system which can inhibit an user notifying unjustly the dealer code of dealers other than the dealer which actually purchased the storage in the selling gestalt of the software which sells separately the storage stored where software is protected, and the license for canceling the protection state of the software in the storage.

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OPERATION

[Operation] By the software sales-management technique and the system concerning this invention indicated by claims 1 and 7, when supplying a storage to a dealer, the correspondence relation of the storage and dealer is recorded, and when the information which specifies the storage purchased from the user, and the information which pinpoints the dealer are reported, this correspondence relation by which the record was carried out [above-mentioned] with the correspondence relation of the record medium and the dealer which were this reported is compared. And when those correspondence relations are not in agreement, the comparison result is recorded. This record result shows whether report up and the dealer where an user is different from practice is.

[0015] In the software sales management technique and the system concerning this invention indicated by claims 2 and 8, it judges whether it is the true dealer where the reported dealer actually sold this storage based on this comparison result. Based on this judgment result, it turns out whether to be the no by which the unjust report was made from the user.

[0016] Furthermore, an user is provided with the license enciphered using the information which specifies the storage reported by the user in the software sales management technique and the system concerning this invention indicated by the claim 5 and 11 publications (sale). If an user replaces with unjustly the information which specifies a storage and reports it by this, the protection state of the software in a storage cannot be canceled, but this user becomes unable to use the software for which it wishes.

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EXAMPLE

[Example] Hereafter, the example of this invention is explained based on a drawing. First, the selling gestalt of the software in this example is explained with reference to drawing 1. In drawing 1, a center 100 enciphers 1 or two or more contents (software) with a predetermined key, and stores in a storage (for example, MO: magneto-optic disk) the contents which would be in the protection state by the encryption. And the storage (MO) is supplied to a dealer 200 from a center 100 (**). A dealer 200 sells to an user 300 the storage (MO) which received supply from the center 100 (**). At this time, the price of a record medium (MO) is paid from an user 300 to a dealer 200. The price of this record medium (MO) is a small amount from the price of the license generally mentioned later. An user 300 notifies the payment condition of the price of the user ID which specifies an user 300 with contents ID which shows the contents of hope, medium ID, a dealer code, and a license etc. to a center 100 (**). In addition, about medium ID and a dealer code, it mentions later. A center 100 will publish the license for canceling the protection state of the contents which he wishes in a storage (MO) to an user 300, if the user who demands a license by user ID judges with it being a regular user (**). In the system of oneself, the user 300 who received the license cancels the protection state of the contents (software) of hope using a license, and uses the contents.

[0018] As shown in drawing 2, it is constituted, and it feels shy and the system (center system) of the above-mentioned center 100 and an user's 300 system (user system) are. In addition, in drawing 2, reference numbers 100 and 300 are given to each system of the center 100 and the user 300 as well as this center and an user, respectively.

[0019] The user system 300 is connected to the center system 100 through a public line. The center system 100 has the license issue section 101, the dealer Management Department 102, the dealer code Management Department 103, the medium ID Management Department 104, the inaccurate log file 105, the user key file 106, the license file 107, and the accounting section 108. The dealer code Management Department 103 manages the dealer code showing each dealer generalized in the concerned center. The medium ID Management Department 104 manages the medium number (medium ID) which specifies each storage (MO) shipped from the concerned center. Moreover, the medium ID Management Department 104 also performs processing for setting medium ID as each storage (MO) shipped. Processing set as the storage (MO) of this medium ID may be performed electronically and magnetically, and the bar code or the medium number itself showing medium ID may be printed on a label etc. moreover, storage (— as long as there is an identifiable information on every MO), you may use it. The dealer Management Department 102 has the file which shows the correspondence relation with the storage (MO) shipped to a dealer and there, and manages which storage was shipped to which dealer based on this file. Moreover, the dealer Management Department 102 inspects whether this relation notified from the correspondence relation and the user system 300 of the dealer (dealer code) and storage (medium ID) which are recorded by this file is in agreement.

[0020] The license issue section 101 publishes the license (key) enciphered using medium ID and user ID according to the demand from the user system 300 to the user system 300. When the relation of the dealer and storage which were notified from the user system 300 differs from what was beforehand recorded by the file, the dealer (dealer code) and its number of times (number of times of inaccurate) are recorded by the inaccurate log file 105. That is, when the correspondence relation of the dealer (dealer code) and storage (medium ID) in the above-mentioned dealer Management Department 102 which were reported from the user system 300 as a result of the check is not in agreement with the correspondence relation recorded by the file, the increment of the number-of-times data of inaccurate of the reported dealer in the inaccurate log file 105 is carried out only for +1. The user key file 106 saves the user key beforehand defined as a private key between the user ID and the user who were notified from the user system 300, and the center. The license information set to each contents (software) of every is stored in the license file 107. The accounting section 108 performs accounting based on the payment condition of the price of the license notified from the user system 300.

[0021] The user system 300 has the license demand section 301, the license file 302, the user key register 303, and the use control section 304. The license demand section 301 will transmit a license demand of each contents to the center system 100 with user ID, contents ID corresponding to the software name, medium ID, and a dealer code, if the input user ID stored in the name of the software for which the user inputted from input units, such as a keyboard, wishes, the dealer code which shows the dealer which purchased this storage (MO), medium ID read from the storage (MO), and the user key register 303 is received. Moreover, the license demand section 301 receives the enciphered license to each contents published from the center system 100, and stores the enciphered license in the license file 302. The use control section 304 decrypts the enciphered

license which is saved by the license file 302 using the user key and medium ID which were stored in the user key register 303, and reproduces the original license. And the protection state of the contents (software) in a storage (MO) is canceled using this reproduced license, and use of this contents is attained by the user system 300.

[0022] In the user system 300 mentioned above, an user may do the direct input of the medium ID printed on the label stuck on the storage (MO) from input units, such as a keyboard. Moreover, user ID may be used instead of an user key, and the key of a decryption may be generated.

[0023] Next, flowing of processing is explained according to the path of circulation of a storage (MO). First, in the center, without overlapping to the registered dealer, a dealer code is assigned and the assigned dealer code is managed at the dealer code Management Department 103 of the center system 100. Medium ID is assigned to a new storage (MO), without overlapping already registered medium ID, and the medium ID is managed at the medium ID Management Department 104. Moreover, this medium ID (medium number) is written in a storage (MO). And the label for entering a dealer code in the case of a storage (MO) is stuck.

[0024] If a dealer 200 arrives the storage (MO) from a center, the dealer code which pinpoints this dealer 200 will be entered in a label. And this storage (MO) is sold to an user. Purchase of the storage (MO) with which the software for which an user wishes from a dealer 200 was stored performs processing in the user system 300 and the center system 100 according to the procedure shown in drawing 3.

[0025] In drawing 3, if the name of the software (contents) for which an user wishes is inputted from an input unit (S1), contents ID which corresponds from a storage (MO) will be read (S2). And medium ID is read from a storage (MO) (S3). Furthermore, an user's input of the dealer code as which the label of user ID and this storage (MO) was filled in notifies user ID, contents ID, medium ID, and a dealer code from the user system 300 to the center system 100 (S4). At this time, a demand of a license is made from the user system 300 to the center system 100.

[0026] If this license demand (user ID, contents ID, medium ID, and a dealer code are included) is received from the user system 300 (S11), the license issue section 101 will be started. And the dealer Management Department 102 searches the dealer code corresponding to medium ID notified from the user system 300 out of a file (S12), and it is judged whether the dealer code notified from the searched dealer code and the user system 300 is in agreement (S13). If the dealer code searched based on medium ID it was notified that was the dealer code notified by the user is in agreement, the license issue section 101 will read an user key from an user key file by medium ID and user ID which were notified from the user system 300, and will create a license key (S17). And a license is searched on the basis of contents ID notified from the user system 300, and the license corresponding to the user's contents of choice is enciphered using a license key (S18). This encryption license is transmitted to the user system 300 from the license issue section 101 (S19). (issue)

[0027] If it judges with the dealer code actually notified from the dealer code which the dealer Management Department 102 in a center 100 searched from the file on the other hand based on medium ID notified from the user system 300, and the user system 300 not being in agreement (S13), the dealer code which had the notice in the inaccurate log file 105 from the user system 300, and its number-of-times n will be written in. And when it is judged whether the number-of-times n reached predetermined number-of-times N (S15) and it has reached, the dealer pinpointed in the dealer code is recorded as an inaccurate dealer (S16).

[0028] If an encryption license is published by the user system 300 from a center 100 as mentioned above, in the user system 300, the license demand section 301 stores this encryption license in the license file 302 (S5). Then, in the user system 300, processing is performed according to the procedure of drawing 4.

[0029] In drawing 4, the contents which the user stored in the storage (MO) wishes is started (S21), and medium ID is further read from a storage (MO) (S22). An user's input of user ID sets a corresponding user key to the user key register 303 (S23). And a license key is generated based on these mediums ID and an user key (S24), and the encryption license saved by the license file 302 is decrypted using this license key (S25). And the decrypted license is notified to the use control section 304 (S206). If a license is notified, the use control section 304 will cancel the protection state of the contents started using the license, and will perform processing according to the contents (use).

[0030] An unjust report of the following users can be considered in the selling gestalt of the software which was mentioned above.

1) the report 2 of medium ID different from actual medium ID -- in the different report above-mentioned example [that both report 3 above-mentioned medium ID of the dealer code different from a purchasing / the medium /-actually dealer and a dealer code are actual], since the license key is created from medium ID and the user key, if an user performs an unjust report of medium ID, the user itself becomes unable to use a contents Therefore, the case of the above 1 and 3 can be inhibited. Moreover, if an user reports a dealer code unjustly, since the record will be made by the inaccurate log file, in the case of the above 2, a center can detect the injustice.

[0031] Moreover, not intentionally but reporting a dealer code to a center accidentally may also have an user. Therefore, the number of times of an inaccurate log is taken, and the inaccurate dealer is judged when number-of-times n of the inaccurate log in a certain specific dealer reaches number-of-times N of predetermined. Thereby, a judgment of the mistaken inaccurate dealer is prevented.

[0032] In addition, although various kinds of informations (medium ID, user ID, dealer code, etc.) are transmitted to the center system 100 from the user system 300 and the encryption license is transmitted to the user system 300 from the center system 100, using a public line etc. at the above-mentioned example, you may be

made to tell these informations by the telephone or facsimile (FAX) between an user and a center, without being limited to this. In this case, in the center, you may judge whether the correspondence relation of medium ID and the dealer code in which the official in charge was actually reported by the user based on the correspondence-related table of medium ID and the dealer code which were written to space is right.

[0033] In this example, although the magneto-optic disk was used as a storage, naturally it is also possible to use CD-ROM as this medium. In this case, the lot number of CD-ROM can also be used as a medium ID. Although the same medium ID will be given to two or more CD-ROMs (the same lot) when a lot number is used as a medium ID, it does not become a problem especially if there are not extremely many CD-ROMs in the same lot.

[0034] Moreover, although the technique of encryption is used as a safeguard of software, the arbitrary protection technique is possible. Furthermore, although the license is enciphered between a center and an user in this example using the user key beforehand defined as a private key, it is also possible to use the data which changed to remain as it is or it, and obtained user ID as a private key for encryption of a license.

[Translation done.]

* NOTICES *

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- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.*** shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[An easy explanation of a drawing]

[Drawing 1] It is drawing showing the selling gestalt of the software which will be the management method of this invention, and the requisite for a system.

[Drawing 2] It is the block diagram showing the example of a basic configuration of the center system by which the software sales method and system concerning this invention were applied, and an user system.

[Drawing 3] It is the flow chart which shows the procedure of the center system concerning license sale, and an user system.

[Drawing 4] It is the flow chart which shows the procedure of processing about software use by the user system which purchased the encryption license.

[An explanation of a sign]

100 Center System (Center)

101 License Issue Section

102 Dealer Management Department

103 Dealer Code Management Department

104 Medium ID Management Department

105 Inaccurate Log File

106 User Key File

107 License File

108 Accounting Section

200 Dealer

300 User System (User)

301 License Demand Section

302 License File

303 User Key Register

304 Use Control Section

[Translation done.]

* NOTICES *

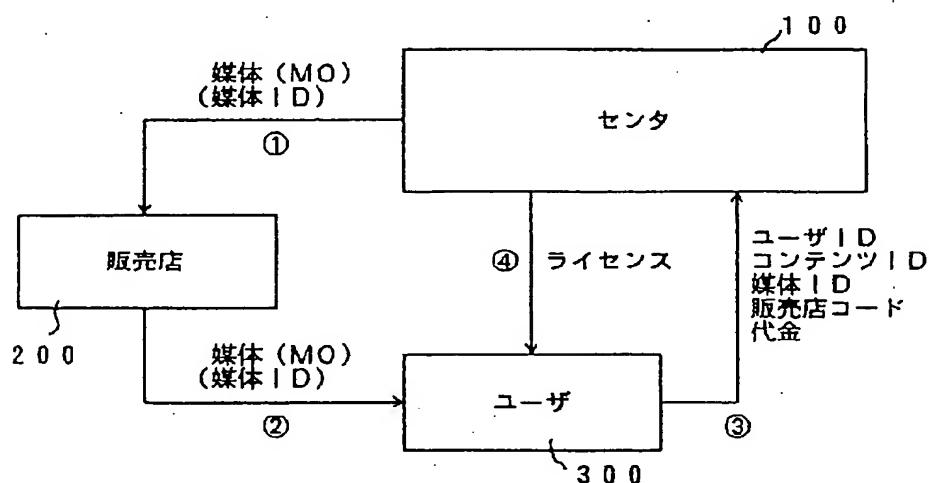
Japan Patent Office is not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DRAWINGS

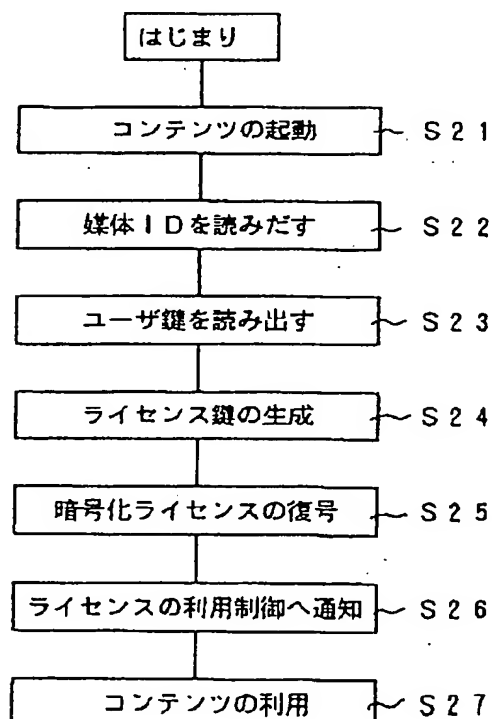
[Drawing 1]

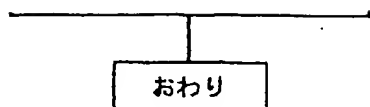
本発明の管理方法及びシステムの前提となるソフトウェアの販売形態を示す図



[Drawing 4]

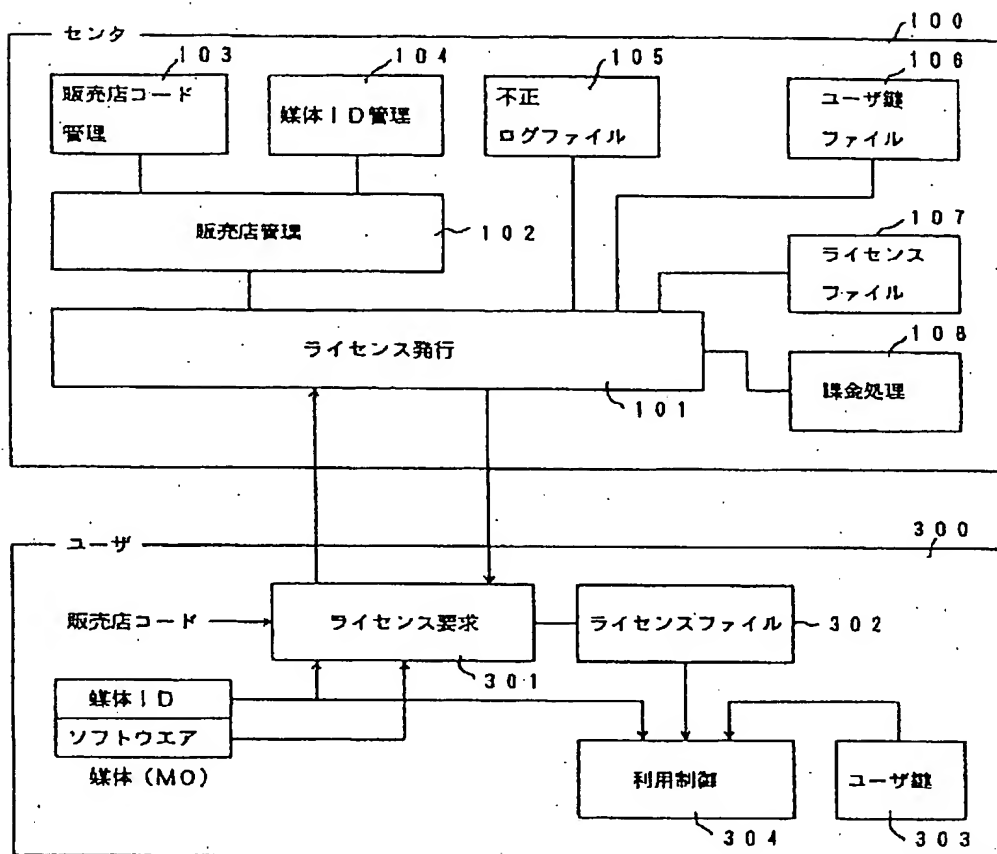
暗号化ライセンスを購入したユーザシステムでの
ソフトウェア利用に関する処理の手順を示すフローチャート





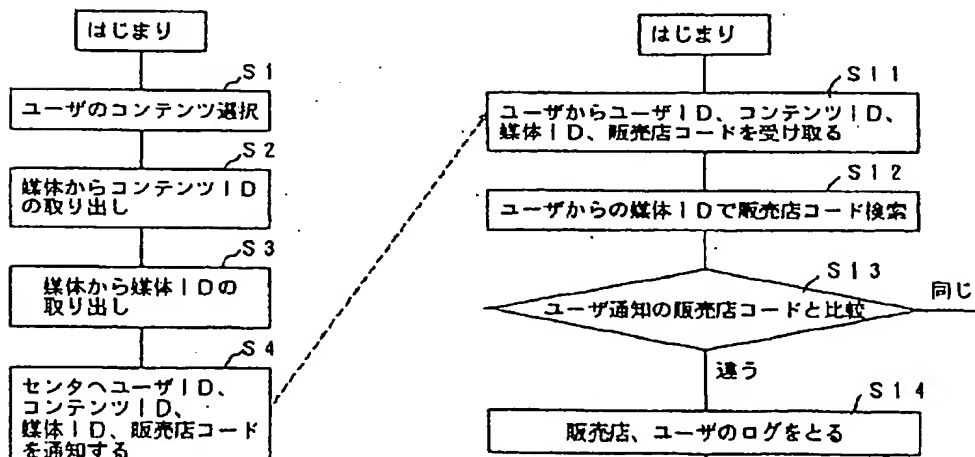
[Drawing 2]

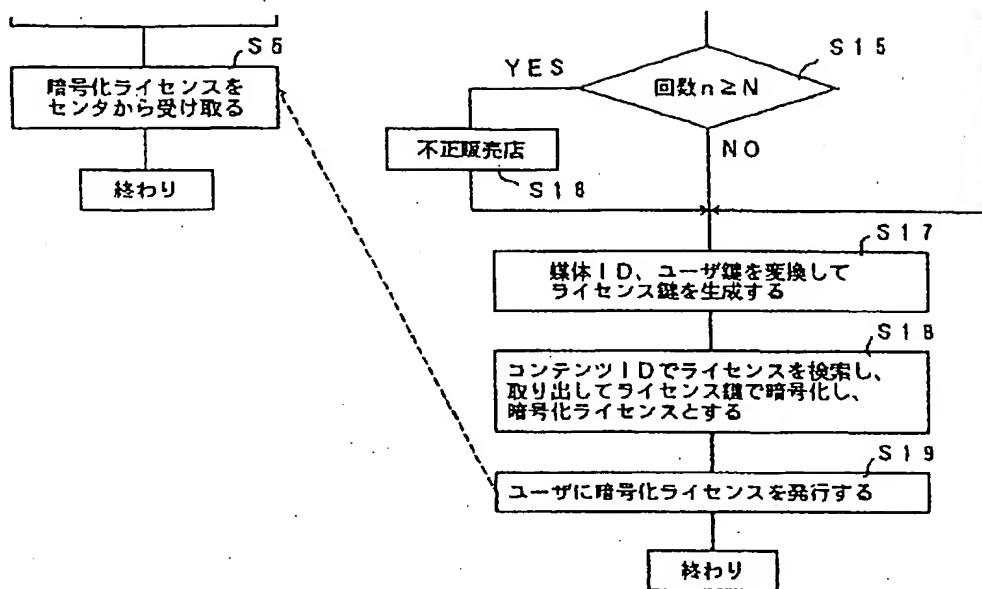
本発明に係るソフトウェア販売方法及びシステムが適用された
センタシステム及びユーザシステムの基本構成例を示すブロック図



[Drawing 3]

ライセンス販売に係るセンタシステム及び
ユーザシステムの処理手順を示すフローチャート





[Translation done.]

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PA253-W00

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審査請求 未請求 請求項の数14 O L (全 9 頁)

<p>(21) 出願番号 特願平6-328897</p> <p>(22) 出願日 平成6年(1994) 12月28日</p>	<p>(71) 出願人 000005223 富士通株式会社 神奈川県川崎市中原区上小田中4丁目1番1号</p> <p>(72) 発明者 鳥居 直哉 神奈川県川崎市中原区上小田中1015番地 富士通株式会社内</p> <p>(72) 発明者 長谷部 高行 神奈川県川崎市中原区上小田中1015番地 富士通株式会社内</p> <p>(74) 代理人 弁理士 伊東 忠彦</p>
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最終頁に続く

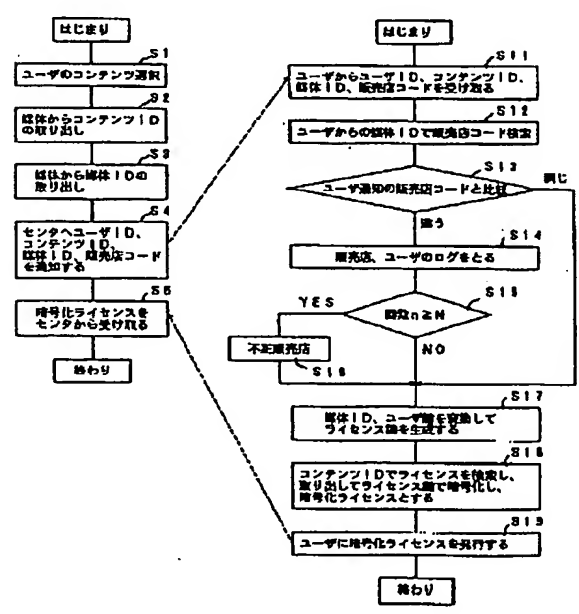
(54) 【発明の名称】 ソフトウェア販売管理方法及びシステム

(57) 【要約】

【目的】 本発明は、ソフトウェアが保護された状態で格納された記憶媒体と、その記憶媒体内のソフトウェアの保護状態を解除するためのライセンスとを別々に販売するソフトウェアの販売形態において、該記憶媒体を実際に販売していない販売店にソフトウェア販売の利益が分配されることを抑止することを目的とする。

【構成】 記録媒体と該記録媒体を供給する販売店との対応関係を記録し、ユーザから、購入した記録媒体を特定する情報と購入先である販売店を特定する情報とがセンタに報告されたときに、報告された情報にて特定される記録媒体と販売店との対応関係と上記記録した記録媒体と販売店との対応関係とを比較し、上記各対応関係が一致しない場合に、その比較の結果を記録するように構成される。

ライセンス販売に係るセンタシステム及び
ユーザシステムの処理手順を示すフローチャート



【特許請求の範囲】

【請求項 1】 ソフトウェアが保護された状態で格納された記憶媒体をセンタから供給された販売店が該記憶媒体をユーザに販売し、ユーザからセンタに対して要求があったときにセンタが該記憶媒体内のソフトウェアの保護状態を解除するためのライセンスを販売する販売システムにおけるセンタでのソフトウェア販売管理方法であって、

記録媒体と該記録媒体を供給する販売店との対応関係を記録し、

ユーザから、購入した記録媒体を特定する情報と供給先である販売店を特定する情報とがセンタに報告されたときに、報告された情報にて特定される記録媒体と販売店との対応関係と上記記録した記録媒体と販売店との対応関係を比較し、

上記各対応関係が一致しない場合に、その比較の結果を記録するソフトウェア販売管理方法。

【請求項 2】 請求項 1 記載のソフトウェア販売管理方法において、

更に、比較結果の記録に基づいて、報告された販売店が該記憶媒体を販売した真の販売店であるか否かを判定するソフトウェア販売管理方法。

【請求項 3】 請求項 2 記載のソフトウェア販売方法において、

該比較結果の記録回数に基づいて報告された販売店が該記録媒体を販売した真の販売店であるか否かを判定するソフトウェア販売管理方法。

【請求項 4】 請求項 3 記載のソフトウェア販売方法において、

該比較結果の記録回数が所定回数に達したときに、報告された販売店が該記録媒体を販売した真の販売店でないと判定するソフトウェア販売管理方法。

【請求項 5】 請求項 1 乃至 4 いずれか記載のソフトウェア販売管理方法において、

ユーザから報告された記憶媒体を特定する情報を用いてライセンスを暗号化し、その暗号化されたライセンスをセンタがユーザに提供するソフトウェア販売管理方法。

【請求項 6】 請求項 5 記載のソフトウェア販売管理方法において、

ユーザから報告された記憶媒体を特定する情報及びユーザを特定する情報から鍵を生成し、その鍵を用いてライセンスを暗号化するようにしたソフトウェア販売管理方法。

【請求項 7】 ソフトウェアが保護された状態で格納された記憶媒体をセンタから供給された販売店が該記憶媒体をユーザに販売し、ユーザからセンタに対して要求があったときにセンタが該記憶媒体内のソフトウェアの保護状態を解除するためのライセンスを販売する販売システムにおけるセンタでのソフトウェア販売管理システムであって、

記録媒体と該記録媒体を供給する販売店との対応関係を記録する対応記録手段と、

ユーザから、購入した記録媒体を特定する情報と購入先である販売店を特定する情報とがセンタに報告されたときに、報告された情報にて特定される記録媒体と販売店との対応関係と上記記録した記録媒体と販売店との対応関係を比較する比較手段と、

上記各対応関係が一致しない場合に、その比較の結果を記録する結果記録手段とを有するソフトウェア販売管理システム。

【請求項 8】 請求項 7 記載のソフトウェア販売管理システムにおいて、

更に、比較手段での比較結果の記録に基づいて、報告された販売店が該記憶媒体を販売した真の販売店であるか否かを判定する不正判定手段を有するソフトウェア販売管理システム。

【請求項 9】 請求項 8 記載のソフトウェア販売システムにおいて、

不正判定手段は、結果記録手段での該比較結果の記録回数に基づいて報告された販売店が該記録媒体を販売した真の販売店であるか否かを判定する手段を有するソフトウェア販売管理システム。

【請求項 10】 請求項 9 記載のソフトウェア販売システムにおいて、

不正判定手段は、該比較結果の記録回数が所定回数に達したときに、報告された販売店が該記録媒体を販売した真の販売店でないと判定する手段を有するソフトウェア販売管理システム。

【請求項 11】 請求項 7 乃至 10 いずれか記載のソフトウェア販売管理システムにおいて、

更に、ユーザから報告された記憶媒体を特定する情報を用いてライセンスを暗号化するライセンス暗号化手段を有し、その暗号化されたライセンスをセンタがユーザに提供するようにしたソフトウェア販売管理システム。

【請求項 12】 請求項 11 記載のソフトウェア販売管理システムにおいて、

暗号化手段は、ユーザから報告された記憶媒体を特定する情報及びユーザを特定する情報から鍵を生成する鍵生成手段を有し、その生成された鍵を用いてライセンスを暗号化するようにしたソフトウェア販売管理システム。

【請求項 13】 請求項 6 記載のソフトウェア販売管理方法において、

ユーザを特定する情報としてセンタとユーザとの間で予め定めて共有している秘密鍵を用いたソフトウェアの販売管理方法。

【請求項 14】 請求項 12 記載のソフトウェア販売管理システムにおいて、

ユーザを特定する情報をセンタとユーザとの間で予め定めて共有している秘密鍵としたソフトウェアの販売管理システム。

【発明の詳細な説明】

【0001】

【産業上の利用分野】本発明は、ソフトウェア販売管理方法及びシステムに係り、詳しくは、ソフトウェアが保護された状態で格納されたCD-ROMや光磁気ディスク(MO)等の記憶媒体と、その記憶媒体内のソフトウェアの保護状態を解除するためのライセンスとを別々に販売するシステムに適用されるソフトウェア販売方法及びシステムに関する。

【0002】

【従来の技術】近年、ソフトウェアが保護された状態で格納されたCD-ROMや光磁気ディスク等の記憶媒体と、その記憶媒体内のソフトウェアの保護状態を解除するためのライセンスとを別々に販売するソフトウェアの販売形態が提案されている。具体的には、ソフトウェアが直接利用できないような保護状態にて格納された記憶媒体をセンタが販売店に供給し、販売店はセンタから供給を受けた記憶媒体をユーザに販売する。また、センタは、ソフトウェアの利用を希望するユーザらの要求に対して該ソフトウェアの保護状態を解除するためのライセンス(鍵)を該ユーザに販売する。そして、記憶媒体及びライセンスを購入したユーザは、そのライセンス(鍵)を用いて記憶媒体内のソフトウェアを読み出し、そのソフトウェアをユーザのシステムにおいて利用する。

【0003】このようなソフトウェアの販売形態においては、センタから販売店に対してライセンス販売で得た利益の分配が行われる。このため、センタではユーザからライセンス購入の要求があったときに、記憶媒体をどの販売店から購入したかを確認する必要がある。

【0004】従来、センタは記憶媒体にラベルを貼付け、販売店がユーザに該記憶媒体を販売する際にそのラベルにその販売店を特定する販売店コード(センタにて予め定められている)を記入している。そして、ユーザがライセンスを購入するときに、ラベルに記入された販売店コードを電話やファクシミリ(FAX)等にてセンタに通知する。センタは、ユーザから通知された販売店コードにて特定される販売店に該ライセンスの販売にて得た利益を分配する。

【0005】

【発明が解決しようとする課題】しかし、上記のようなユーザからの通知に頼った販売の管理方法では、ユーザが実際に記憶媒体を購入した販売店以外の販売店の販売店コードをセンタに通知しても、センタではそれを検出できない。従って、実際に記憶媒体を購入した販売店と異なる販売店の販売店コードがユーザから不正にセンタに通知されると、ライセンス販売の利益が本来分配されるべき販売店に分配されず、その利益は他の不正な販売店に分配されてしまう。

【0006】そこで、本発明の目的は、ソフトウェアが

保護された状態で格納された記憶媒体と、その記憶媒体内のソフトウェアの保護状態を解除するためのライセンスとを別々に販売するソフトウェアの販売形態において、実際に記憶媒体を購入した販売店以外の販売店の販売店コードをユーザが不正に通知することを抑止できるようなソフトウェア販売管理方法及びシステムを提供することである。

【0007】

【発明が解決しようとする課題】上記課題を解決するため、発明は、請求項1及び7に記載されるように、ソフトウェアが保護された状態で格納された記憶媒体をセンタから供給された販売店が該記憶媒体をユーザに販売し、ユーザからセンタに対して要求があったときにセンタが該記憶媒体内のソフトウェアの保護状態を解除するためのライセンスを販売する販売システムにおけるセンタでのソフトウェア販売管理方法及びシステムであって、記録媒体と該記録媒体を供給する販売店との対応関係を記録し、ユーザから、購入した記録媒体を特定する情報と購入先である販売店を特定する情報とがセンタに報告されたときに、報告された情報にて特定される記録媒体と販売店との対応関係と上記記録した記録媒体と販売店との対応関係を比較し、上記各対応関係が一致しない場合に、その比較の結果を記録するようにした。

【0008】また、更に、ユーザから不正な報告がなされたか否かが判定できるという観点から、請求項2及び8に記載されるように、上記ソフトウェア販売管理方法及びシステムにおいて、更に、比較結果の記録に基づいて、報告された販売店が該記憶媒体を販売した真の販売店であるか否かを判定するようにした。

【0009】また、上記請求項2及び8に記載されたソフトウェア販売管理方法及びシステムにおいて、ユーザからの誤った販売店の報告に基づいて不正の判定が行われるのを防止するという観点から、請求項3及び9に記載されるように、該比較結果の記録回数に基づいて報告された販売店が該記録媒体を販売した真の販売店であるか否かを判定するようにした。

【0010】また、上記請求項3及び9に記載されたソフトウェア販売管理方法及びシステムにおいて、容易に判定できるという観点から、請求項4及び10に記載されるように、該比較結果の記録回数が所定回数に達したときに、報告された販売店が該記録媒体を販売した真の販売店でないかと判定するようにした。

【0011】また、上記各ソフトウェア販売方法及びシステムにおいて、ユーザが記憶媒体を特定する情報を不正に報告するのを抑止するという観点から、請求項5及び11に記載されるように、ユーザから報告された記憶媒体を特定する情報を用いてライセンスを暗号化し、その暗号化されたライセンスをセンタがユーザに提供するよう

【0012】また、上記請求項5及び11記載のソフト

ウェア販売管理方法及びシステムにおいて、ユーザ固有の暗号化されたライセンスを生成するという観点から、請求項 6 及び 12 に記載されるように、ユーザから報告された記憶媒体を特定する情報及びユーザを特定する情報から鍵を生成し、その鍵を用いてライセンスを暗号化するようにした。

【0013】更に、上記ユーザを特定する情報は、具体的に、請求項 13 及び 14 に記載されるように、センタとユーザ間で予め定めて共有している秘密鍵とした。

【0014】

【作用】請求項 1 及び 7 に記載される本発明に係るソフトウェア販売管理方法及びシステムでは、販売店に記憶媒体を供給するときに、その記憶媒体と販売店との対応関係が記録され、ユーザから購入した記憶媒体を特定する情報とその販売店を特定する情報を報告されたときに、該報告された記録媒体と販売店との対応関係と上記記録された同対応関係が比較される。そして、それらの対応関係が一致しないときにその比較結果が記録される。この記録結果により、ユーザが実際と異なる販売店を報告しているか否かが判る。

【0015】請求項 2 及び 8 に記載される本発明に係るソフトウェア販売管理方法及びシステムでは、該比較結果に基づいて、報告された販売店が該記憶媒体を実際に販売した真の販売店であるか否かを判定する。この判定結果に基づいて、ユーザから不正な報告がなされた否かが判る。

【0016】更に、請求項 5 及び 11 に記載される本発明に係るソフトウェア販売管理方法及びシステムにおいては、ユーザから報告された記憶媒体を特定する情報を用いて暗号化されたライセンスがユーザに提供（販売）される。これにより、もし、ユーザが記憶媒体を特定する情報を不正に代えて報告すると、記憶媒体内のソフトウェアの保護状態を解除できず、該ユーザは、希望するソフトウェアが利用できなくなる。

【0017】

【実施例】以下、本発明の実施例を図面に基いて説明する。まず、本実施例におけるソフトウェアの販売形態について、図 1 を参照して説明する。図 1 において、センタ 100 は一または複数のコンテンツ（ソフトウェア）を所定の鍵にて暗号化し、その暗号化により保護状態となったコンテンツを記憶媒体（例えば、MO：光磁気ディスク）に格納する。そして、その記憶媒体（MO）がセンタ 100 から販売店 200 に供給される

（①）。販売店 200 は、センタ 100 から供給を受けた記憶媒体（MO）をユーザ 300 に販売する（②）。このとき、ユーザ 300 から販売店 200 に対して記録媒体（MO）の代金が支払われる。この記録媒体（MO）の代金は、一般に後述するライセンスの代金より低額である。ユーザ 300 は、希望のコンテンツを示すコンテンツ ID と共に、ユーザ 300 を特定するユーザ ID、媒体 ID、販売店コード、ライセンスの代金の支払条件等をセンタ 100 に通知する（③）。なお、媒体 ID 及び販売店コードについては後述する。センタ 100 は、ユーザ ID によりライセンスを要求するユーザが正規のユーザであると判定すると、記憶媒体（MO）内の希望するコンテンツの保護状態を解除するためのライセンスをユーザ 300 に対して発行する（④）。ライセンスを受けたユーザ 300 は、自らのシステムにおいて、ライセンスを用いて希望のコンテンツ（ソフトウェア）の保護状態を解除し、そのコンテンツを利用する。

【0018】上記センタ 100 のシステム（センタシステム）及びユーザ 300 のシステム（ユーザシステム）は、例えば、図 2 に示すように構成されている。なお、図 2 において、センタ 100 及びユーザ 300 の各システムにも、該センタ及びユーザと同様に、夫々参照番号 100 及び 300 が付される。

【0019】ユーザシステム 300 は、例えば、公衆回線を介してセンタシステム 100 に接続される。センタシステム 100 は、ライセンス発行部 101、販売店管理部 102、販売店コード管理部 103、媒体 ID 管理部 104、不正ログファイル 105、ユーザ鍵ファイル 106、ライセンスファイル 107 及び課金処理部 108 を有している。販売店コード管理部 103 は当該センタにて統括される各販売店を表す販売店コードを管理する。媒体 ID 管理部 104 は当該センタから出荷される各記憶媒体（MO）を特定する媒体番号（媒体 ID）を管理する。また、媒体 ID 管理部 104 は、出荷される各記憶媒体（MO）に媒体 ID を設定するための処理を行う。この媒体 ID の記憶媒体（MO）に設定する処理は、電子的、磁氣的に行ってもよいし、媒体 ID を表すバーコードあるいは媒体番号そのものをラベル等にプリントするものでもよい。また、記憶媒体（MO）毎の識別可能な情報があればそれを用いてもよい。販売店管理部 102 は、販売店とそこに出荷された記憶媒体（MO）との対応関係を示すファイルを有しており、該ファイルに基づいて、どの販売店にどの記憶媒体が出荷されたかを管理する。また、販売店管理部 102 は、該ファイルに記録される販売店（販売店コード）と記憶媒体（媒体 ID）との対応関係とユーザシステム 300 から通知された同関係が一致するか否かを検査する。

【0020】ライセンス発行部 101 は、ユーザシステム 300 からの要求に応じて媒体 ID 及びユーザ ID を用いて暗号化されたライセンス（鍵）をユーザシステム 300 に対して発行する。不正ログファイル 105 には、ユーザシステム 300 から通知された販売店と記憶媒体との関係がファイルに予め記録されたものと異なる場合に、その販売店（販売店コード）とその回数（不正回数）を記録される。即ち、上記販売店管理部 102 での検査の結果、ユーザシステム 300 から報告された販売店（販売店コード）と記憶媒体（媒体 ID）との対応

通知された同関係が一致するか否かを検査する。

関係がファイルに記録された対応関係と一致しなかった場合、不正ログファイル 105 内のその報告された販売店の不正回数データが +1 だけインクリメントされる。ユーザ鍵ファイル 106 はユーザシステム 300 から通知されたユーザ ID 及びユーザとセンタ間で予め秘密鍵として定めたユーザ鍵を保管する。ライセンスファイル 107 には各コンテンツ (ソフトウェア) 毎に定められたライセンス情報が格納されている。課金処理部 108 は、ユーザシステム 300 から通知されたライセンスの代金の支払条件に基づいて課金処理を行う。

【0021】ユーザシステム 300 は、ライセンス要求部 301、ライセンスファイル 302、ユーザ鍵レジスタ 303 及び利用制御部 304 を有している。ライセンス要求部 301 は、キーボード等の入力ユニットから入力されたユーザが希望するソフトウェアの名称、該記憶媒体 (MO) を購入した販売店を示す販売店コード、記憶媒体 (MO) から読み出された媒体 ID 及びユーザ鍵レジスタ 303 に格納された入力ユーザ ID を受けると、センタシステム 100 に対してユーザ ID、ソフトウェア名に対応したコンテンツ ID、媒体 ID 及び販売店コードと共に各コンテンツのライセンス要求を転送する。また、ライセンス要求部 301 は、センタシステム 100 から発行された各コンテンツに対する暗号化されたライセンスを受信し、その暗号化されたライセンスをライセンスファイル 302 に格納する。利用制御部 304 は、ユーザ鍵レジスタ 303 に格納されたユーザ鍵及び媒体 ID を用いてライセンスファイル 302 に保管されている暗号化されたライセンスを復号化して元のライセンスを再生する。そして、この再生されたライセンスを用いて記憶媒体 (MO) 内のコンテンツ (ソフトウェア) の保護状態を解除し、該コンテンツがユーザシステム 300 にて利用可能となる。

【0022】上述したユーザシステム 300 において、記憶媒体 (MO) に貼付されたラベルにプリントされた媒体 ID をユーザがキーボード等の入力ユニットから直接入力してもよい。また、ユーザ鍵の代わりにユーザ ID を用いて復号化の鍵を生成してもよい。

【0023】次に、記憶媒体 (MO) の流通の経路に従って処理の流れを説明する。まず、センタでは、登録された販売店に対して重複することなく販売店コードを割り付け、割り付けられた販売店コードがセンタシステム 100 の販売店コード管理部 103 にて管理される。既に登録された媒体 ID と重複することなく媒体 ID が新たな記憶媒体 (MO) に割り付けられ、その媒体 ID が媒体 ID 管理部 104 にて管理される。また、この媒体 ID (媒体番号) が記憶媒体 (MO) に書き込まれる。そして、記憶媒体 (MO) のケースに販売店コードを記入するためのラベルが貼付される。

【0024】販売店 200 がセンタからの記憶媒体 (MO) を入荷すると、ラベルに該販売店 200 を特定する

販売店コードを記入する。そして、該記憶媒体 (MO) がユーザに販売される。ユーザが販売店 200 から希望するソフトウェアが格納された記憶媒体 (MO) を購入すると、ユーザシステム 300 及びセンタシステム 100 では、図 3 に示す手順に従って処理が実行される。

【0025】図 3 において、ユーザが希望するソフトウェア (コンテンツ) の名称を入力ユニットから入力すると (S1)、記憶媒体 (MO) から対応するコンテンツ ID が読み出される (S2)。そして、記憶媒体 (MO) から媒体 ID が読み出される (S3)。さらに、ユーザがユーザ ID 及び該記憶媒体 (MO) のラベルに記入された販売店コードを入力すると、ユーザシステム 300 からセンタシステム 100 に対して、ユーザ ID、コンテンツ ID、媒体 ID 及び販売店コードが通知される (S4)。このときユーザシステム 300 からセンタシステム 100 に対してライセンスの要求がなされる。

【0026】このライセンス要求 (ユーザ ID、コンテンツ ID、媒体 ID 及び販売店コードを含む) をユーザシステム 300 から受けると (S11)、ライセンス発行部 101 が起動される。そして、販売店管理部 102 がユーザシステム 300 から通知された媒体 ID に対応する販売店コードをファイル内から検索し (S12)、その検索された販売店コードとユーザシステム 300 から通知された販売店コードとが一致するか否かが判定される (S13)。もし、ユーザから通知された販売店コードと通知された媒体 ID に基づいて検索された販売店コードとが一致すれば、ライセンス発行部 101 はユーザシステム 300 から通知された媒体 ID 及びユーザ ID によりユーザ鍵ファイルからユーザ鍵を読みだしてライセンス鍵を作成する (S17)。そして、ユーザシステム 300 から通知されたコンテンツ ID を基にライセンスを検索し、そのユーザの希望コンテンツに対応したライセンスをライセンス鍵を用いて暗号化する (S18)。この暗号化ライセンスがライセンス発行部 101 からユーザシステム 300 に転送 (発行) される (S19)。

【0027】一方、センタ 100 における販売店管理部 102 がユーザシステム 300 から通知された媒体 ID に基づいてファイルから検索した販売店コードとユーザシステム 300 から実際に通知された販売店コードとが一致しないと判定すると (S13)、不正ログファイル 105 にユーザシステム 300 から通知のあった販売店コード及びその回数 n が書き込まれる。そして、その回数 n が所定の回数 N に達したかどうか判定され (S15)、達している場合には、その販売店コードで特定された販売店を不正販売店として記録する (S16)。

【0028】上述のように暗号化ライセンスがセンタ 100 からユーザシステム 300 に発行されると、ユーザシステム 300 においては、ライセンス要求部 301 が該暗号化ライセンスをライセンスファイル 302 に格納

する(S5)。その後、ユーザシステム300では、図4の手順に従って処理を実行する。

【0029】図4において、記憶媒体(MO)に格納されたユーザが希望するコンテンツが起動され(S21)、更に、記憶媒体(MO)から媒体IDが読み出される(S22)。ユーザがユーザIDを入力すると、対応するユーザ鍵がユーザ鍵レジスタ303にセットされる(S23)。そして、これら媒体IDとユーザ鍵とに基づいてライセンス鍵が生成され(S24)、ライセンスファイル302に保管された暗号化ライセンスがこの

ライセンス鍵を用いて復号化される(S25)。そして、復号化されたライセンスが利用制御部304に通知される(S206)。利用制御部304は、ライセンスが通知されると、そのライセンスを用いて起動されたコンテンツの保護状態を解除し、そのコンテンツに従った処理を実行する(利用)。

【0030】上述したような、ソフトウェアの販売形態においては、次のようなユーザの不正な報告が考えられる。

- 1) 実際の媒体IDと異なる媒体IDの報告
- 2) 実際に媒体を購入したの販売店と異なる販売店コードの報告
- 3) 上記媒体ID及び販売店コードの両方が実際のもの異なる報告

上記実施例では、ライセンス鍵は媒体ID及びユーザ鍵から作成されているので、もし、ユーザが媒体IDの不正な報告を行うと、ユーザ自身がコンテンツを利用することができなくなる。従って、上記1)及び3)のケースは抑止することができる。また、ユーザが不正に販売店コードを報告すれば、不正ログファイルにその記録がなされるので、上記2)のケースでは、センタはその不正を検出することができる。

【0031】また、ユーザが故意ではなく誤って販売店コードをセンタに報告することもありうる。そのため、不正ログの回数をとっており、ある特定の販売店での不正ログの回数nが所定回数Nに達したときに、不正販売店の判定を行っている。これにより、誤った不正販売店の判定が防止される。

【0032】なお、上記実施例では、公衆回線等を用いてユーザシステム300から各種の情報(媒体ID、ユーザID、販売店コード等)をセンタシステム100に、また、センタシステム100から暗号化ライセンスをユーザシステム300に転送しているが、これに限定されることなく、ユーザ及びセンタ間でこれらの情報を電話あるいはファクシミリ(FAX)等で知らせるようにしてもよい。この場合、センタでは、係員が紙面に書かれた媒体IDと販売店コードとの対応関係の表に基づいて、実際にユーザから報告された媒体IDと販売店コードとの対応関係が正しいか否かを判定してもよい。

【0033】本実施例では、記憶媒体として光磁気ディ

スクを用いたが、該媒体として、例えば、CD-ROMを用いることも当然可能である。この場合、媒体IDとしてCD-ROMのロット番号を用いることもできる。ロット番号を媒体IDとして用いた場合同一の媒体IDが複数のCD-ROM(同じロット)に付されることになるが、同一ロット内のCD-ROMの数が極端に多くなければ特に問題とならない。

【0034】また、ソフトウェアの保護手段として暗号化の手法を用いているが、その他、任意の保護手法が可能である。更に、本実施例では、センタとユーザとの間で予め秘密鍵として定めたユーザ鍵を用いてライセンスを暗号化しているが、ユーザIDをそのまま、あるいはそれを変換して得たデータをライセンスの暗号化のための秘密鍵として用いることも可能である。

【0035】

【発明の効果】以上説明たように、本発明によれば、ソフトウェアが保護された状態で格納された記憶媒体をセンタから供給された販売店が該記憶媒体をユーザに販売し、ユーザからセンタに対して要求があったときにセンタが該記憶媒体内のソフトウェアの保護状態を解除するためのライセンスを販売する販売形態において、ユーザがセンタに不正に販売店等の報告を行っても、それを検出することができ、従って、そのような行為ユーザの行為を抑止することができ、真の販売店に対して確実にソフトウェア販売の利益が分配されるようになる。

【図面の簡単な説明】

【図1】本発明の管理方法及びシステムの前提となるソフトウェアの販売形態を示す図である。

【図2】本発明に係るソフトウェア販売方法及びシステムが適用されたセンタシステム及びユーザシステムの基本構成例を示すブロック図である。

【図3】ライセンス販売に係るセンタシステム及びユーザシステムの処理手順を示すフローチャートである。

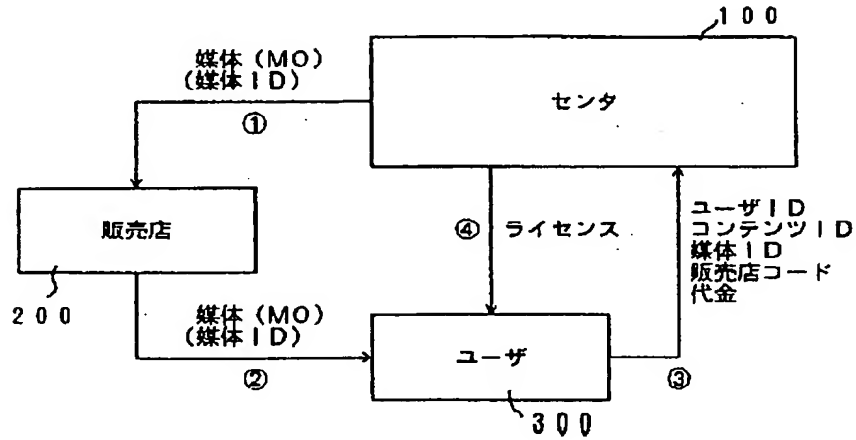
【図4】暗号化ライセンスを購入したユーザシステムでのソフトウェア利用に関する処理の手順を示すフローチャートである。

【符号の説明】

- 100 センタシステム(センタ)
- 101 ライセンス発行部
- 102 販売店管理部
- 103 販売店コード管理部
- 104 媒体ID管理部
- 105 不正ログファイル
- 106 ユーザ鍵ファイル
- 107 ライセンスファイル
- 108 課金処理部
- 200 販売店
- 300 ユーザシステム(ユーザ)
- 301 ライセンス要求部
- 302 ライセンスファイル

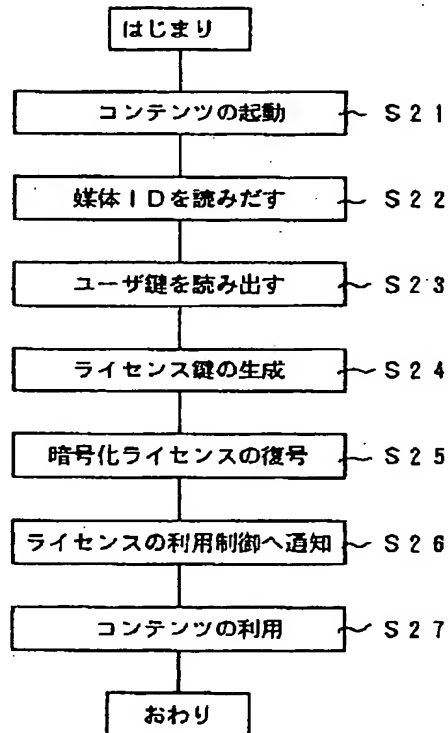
【図1】

本発明の管理方法及びシステムの前提となるソフトウェアの販売形態を示す図



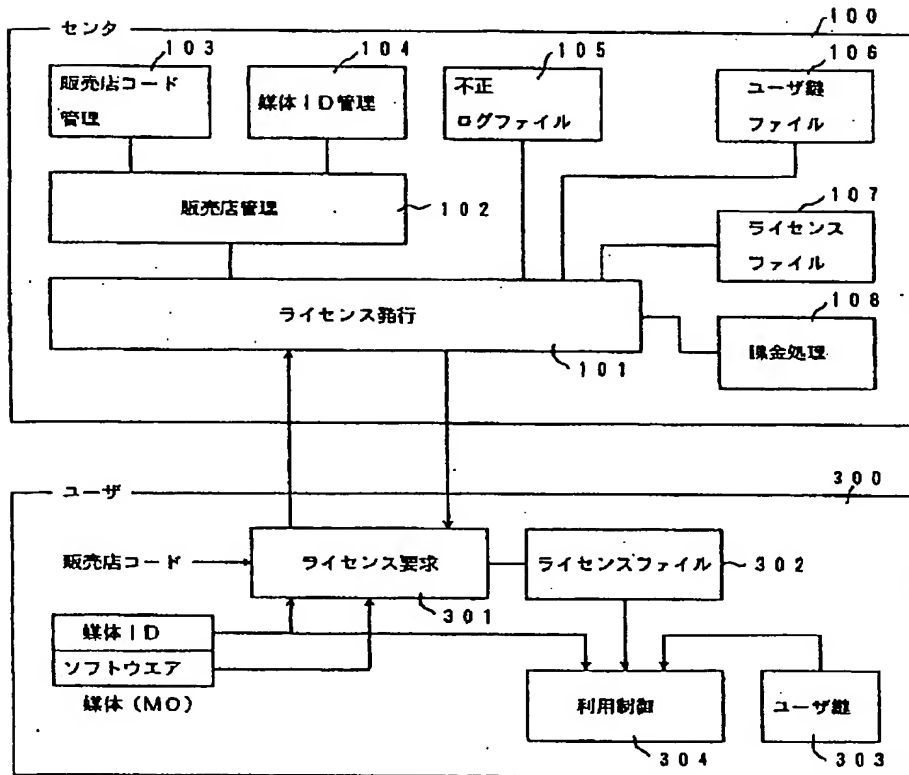
【図4】

暗号化ライセンスを購入したユーザシステムでの
ソフトウェア利用に関する処理の手順を示すフローチャート



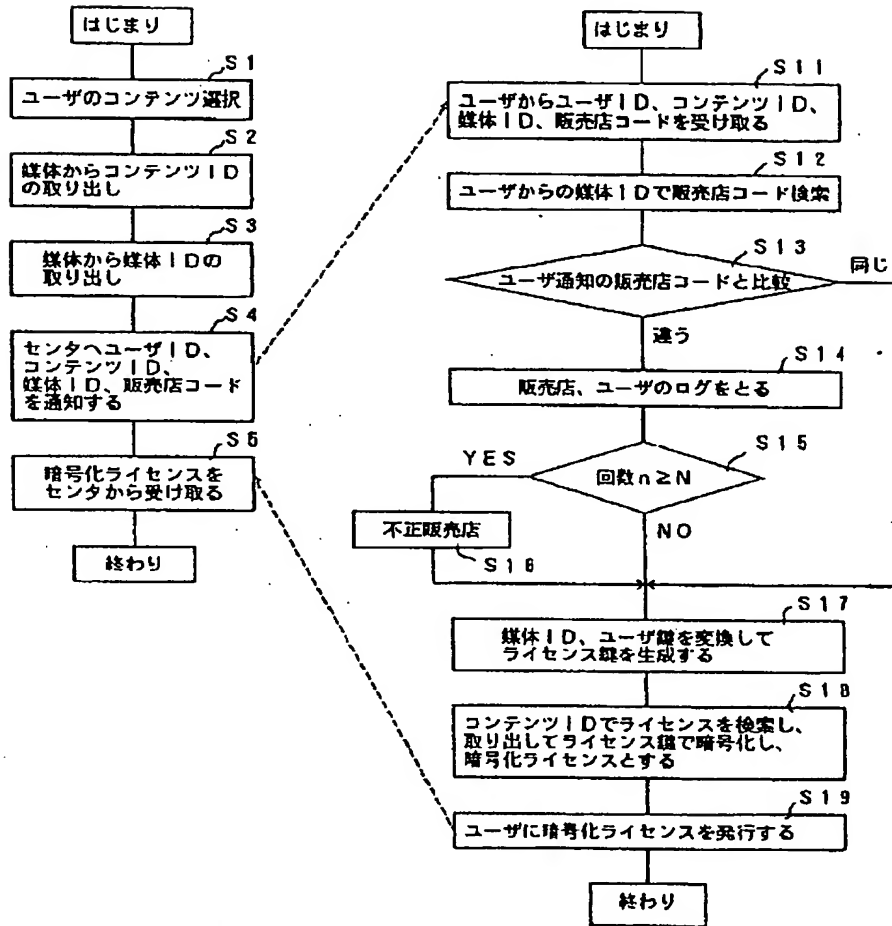
【図2】

本発明に係るソフトウェア販売方法及びシステムが適用された
センタシステム及びユーザシステムの基本構成例を示すブロック図



【図3】

ライセンス販売に係るセンタシステム及び
ユーザシステムの処理手順を示すフローチャート



フロントページの続き

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